AMENDMENTS TO THE CLAIMS:

Please amend claims 1, 4 and 12 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A coherent differential absorption lidar (DIAL) device comprising[[;]]:

a transmit portion for directing a combined light beam, comprising at least two component light beams of discrete wavelengths, to a remote target and providing a local oscillator beam associated with each component light beam,

a receive portion for receiving light returned from the remote target and for coherently mixing the received light with its associated local oscillator beam, and

~~characterised in that the device further comprises a signal correction means, the~~a signal correction means comprising:

a means for extracting a portion of each component light beam from the transmit portion,

a means for introducing a frequency difference between each extracted component light beam and its associated local oscillator beam and

a means for directing ~~the~~each extracted component light beam into the receive portion.

2. (original) A DIAL device according to claim 1, and further comprising a means for introducing a frequency difference between each of the at least two component light beams and the associated local oscillator beam.

3. (previously presented) A DIAL device according to claim 1 wherein the combined light beam is routed through a fibre optic cable prior to transmission to the remote target.

4. (currently amended) A DIAL device according to claim 1 wherein the transmit portion focuses light on the remote target using a first optical arrangement and the receive portion collects light from the remote target using a second~~, alternative,~~ optical arrangement.

5. (previously presented) A DIAL device according to claim 1 wherein each of the at least two component light beams is generated by a discrete laser source.

6. (previously presented) A DIAL device according to claim 1 wherein the transmit portion comprises one laser source, a means for dividing the light beam output by the laser source into at least two component light beams and a means for introducing a frequency difference between said component light beams.

7. (previously presented) A DIAL device according to claim 1 wherein one or more of the means for introducing a frequency difference comprises an acousto-optic modulator.

8. (previously presented) A DIAL device according to claim 1 and further comprising at least one polarisation controller configured so as to control the polarisation state of the received light and/or the extracted component light beam with respect to the polarisation state of the associated local oscillator beam.

9. (previously presented) A DIAL device according to claim 1 wherein the transmit portion further comprises at least one optical amplifier to amplify the intensity of one or more of the at least two component light beams.

10. (previously presented) A DIAL device according to claim 1 wherein the signal correction means additionally comprises at least one delay line.

11. (previously presented) A DIAL device according to claim 1 in wherein the wavelength of one of the at least two component light beams is selected to coincide with a peak in absorption of a gas species of interest.

12. (currently amended) A method of providing a normalisation signal in a coherent DIAL device having a transmit portion for directing a combined light beam comprising at least two component light beams of discrete wavelengths to a remote target and providing a local oscillator beam associated with each component light beam and a receive portion for receiving light returned from said remote target and for coherently mixing the received light with said associated local oscillator beam, the method comprising the steps of;

extracting a portion of each component light beam~~radiation~~ from the transmit portion~~path~~ of the device,

introducing a frequency difference between ~~the extracted radiation~~each extracted component light beam and said associated local oscillator beam, and

inputting each said ~~frequency shifted radiation~~extracted component light beam into the receive portion~~path~~ of the device.

13. (cancelled).